UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

MAR 1 2 2008

Mr. Edward Galbraith, Director
Water Pollution Control Program
Water Protection and Soil Conservation Division
Missouri Department of Natural Resources
P. O. Box 176
Jefferson City, Missouri 65102

Dear Mr. Galbraith:

RE: Permit Limits in Lieu of a TMDL for Dry Auglaize Creek (WBID 1145)

This letter responds to the submission from the Missouri Department of Natural Resources (MDNR) dated November 1, 2006, regarding Dry Auglaize Creek. Dry Auglaize Creek was listed as impaired on Missouri's 1998 §303(d) list and on the 2002 §303(d) list, for biological oxygen demand (BOD) and non-filterable residue (NFR). MDNR proposes to correct the impairments with National Pollutant Discharge Elimination System (NPDES) permit limits in lieu (PIL) of Total Maximum Daily Loads (TMDLs). The following water body segment is proposed to be corrected through permit limits.

Water Body	WBID	Impairment	Source	Permit #	Year added to list
Dry Auglaize Creek	1145	BOD and NFR	City of Lebanon wastewater treatment plant (WWTP)	MO-0089010	1998

Waters require TMDLs when certain pollution control requirements are not stringent enough to implement water quality standards (WQS) for such waters. To exempt an impaired water from the TMDL process, the pollution control requirements cited in the regulation under 40 CFR §130.7(b)(1)(i), (ii), and (iii) must be established and enforced by federal, state, or local laws or regulations, and be stringent enough that, when applied, the receiving water will meet WQS.

In regards to Dry Auglaize Creek, Federal regulations at 40 CFR §130.7(b)(1)(ii) provide that where ["more stringent effluent limitations (including prohibitions) required by either state or local authority preserved by section 510 of the Act, or Federal authority (law, regulation, or treaty)"] are stringent enough to implement WQS, a TMDL is not required. The United States

Environmental Protection Agency (EPA) has completed its review of information supporting this PIL, and concur that a TMDL is not required for this impaired water body because the impairments are being addressed through more stringent effluent limitations 40 CFR §130.7(b)(1)(ii).

The city of Lebanon's wastewater treatment plant (WWTP) has been identified as the sole source of the BOD and NFR impairments on Dry Auglaize Creek. The listing was based on the history of violations for sanitary sewer overflows (SSO), particularly at manhole #1, located 100 yards upstream (south) of the WWTP. The reissued permit includes the same interim and final limits for BOD and total suspended solids, however a 2004 consent decree (CD) 04-3125-CV-S-RED between the United States, the state of Missouri and the city of Lebanon mandates monthly reporting of all SSOs and describes the schedule of compliance (SOC) to eliminate SSOs. The SOC includes completion of Goodwin Hollow lift station by June 4, 2008, completion of capacity relief sewers by February 1, 2010, submission of a detailed engineering report, and proceeding with the design and construction of a third oxidation ditch. The CD requirements have enforcement authority to ensure that the city of Lebanon will have corrected the bypassing and met WQS by July 1, 2007. An enforcement letter, Addendum No. 1 to the "Final Report Post-Rehabilitation and Master Plan Update" was issued December 3, 2007. The permit includes quarterly in-stream monitoring upstream of the facility outfall and one quarter mile downstream of the facility outfall, for ammonia as nitrogen, temperature, pH and dissolved oxygen to verify if permit limits are being achieved. The permit also includes a reopener clause to allow for stricter limits if monitoring shows WQS violations.

Enclosed with this letter is the Region 7 4B Rationale Document which summarizes EPA's approval of the PIL. EPA believes the separate elements of the PIL described in the enclosed document adequately address the pollutants of concern.

If you have any questions or concerns in regards to this matter, please do not hesitate to contact Tabatha Adkins, of my staff, at (913) 551-7128.

Sincerely,

Betty D. Berry

William A. Spratlin
Director
Water, Wetlands and Pesticides Division

Enclosure

cc: John Hoke
Missouri Department of Natural Resources

EPA Region 7 4B Rationale

Water body ID(s): MO_1145 **State:** MO
Water body Names(s): DRY AUGLAIZE
Pollutant(s): AMMONIA-NITROGEN, BOD, NFR (NON FILTERABLE RESIDUES)
HUC(s): 10290109
Basin:
Tributary(ies):
First Listing Cycle: 1998
Submittal Date: 11/1/2006 **Approved:** Yes

Submittal Letter

State submittal letter indicates final Maximum Daily Load(s) for specific pollutant(s)/water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act. Include date submitted letter was received by EPA and date of receipt of any revisions.

The United States Environmental Protection Agency (EPA) received this submittal, for the impairments biological oxygen demand (BOD) and NFR, with cover letter, check list, final permit, biological stream assessment report, stream survey sampling report, consent decree and water quality review sheet on November 1, 2006. An email was received 11/7/2006 stating that the City of Lebanon was appealing the permit. EPA placed the review of this permit in lieu (PIL) of a Total Maximum Daily Load (TMDL) on hold until the appeal was resolved. An email was received 12/18/2007 with an attached Notice of Voluntary Dismissal for the appeal. Updated information and the current permit were submitted by email 01/04/2008.

Concern

A statement of the problem causing the impairment.

The sole source of the impairment is the bypassing of the Lebanon wastewater treatment plant (WWTP) MO-0089010. The listing was based on the City of Lebanon's history of violations for sanitary sewer overflows (SSO), particularly at manhole #1, located 100 yards upstream (south) of the WWTP. The outfall and bypassing occur in the upper reaches of the creek where there is no visible flow, except in wet weather, making the impaired section to be considered effluent dominated in most seasons.

Biological Stream Assessment Report for March 15 and September 25, 2000. Observations and findings include; the stream is 100% WWTP effluent dominated, biological ratings are partially supporting (station #1) and non-supporting (station #2) and loss of surface water (this is a losing stream).

Consent Decree (CD) between the United States, the State of Missouri and the City of Lebanon was entered on September 27, 2004. The objectives of the CD are 1) require the City of Lebanon to comply with its National Pollution Discharge Elimination System (NPDES) permit, the Clean Water Act (CWA) and Missouri Clean Water Law (MCWL); 2) to require the City of Lebanon to abide by incorporated work plans and schedules to investigate and locate sources of inflow and infiltration and implement a rehabilitation program to eliminate SSOs from the collection system.

Stream Survey Sampling Report by MDNR for August 7-9, 2000 evaluating invertebrates and

macroinvertebrates in support of the listing, was also included.

There are no other permitted facilities upstream of the WWTP, but there is one small, unregulated dairy farm (200 animal units or less). On March 19, 2003, the Missouri Department of Natural Resources (MDNR) issued a letter of approval describing acceptable procedures for the dairy to store, treat and land apply dairy wastes. Monitoring upstream of the WWTP outfall and downstream of the dairy has shown no discharges or violations from the dairy. MDNR has addressed the dairy as a possible source of stream impairment from nutrients, BOD, and total suspended solids (TSS).

Implementation Strategy

A description of the proposed implementation strategy and supporting pollution controls necessary to achieve WQS, including the identification of point and nonpoint source loadings that when implemented assure the attainment of all applicable WQS.

A permit was reissued on September 29, 2006 and revised on January 4, 2008.

The reissued permit sets interim weekly and monthly average limits for BOD of 15 mg/L and 10 mg/L and TSS of 20 mg/L and 15 mg/L. The reissued permit also includes interim limits for fecal coliform of 1000 cfu/100 ml daily maximum and 400 cfu/ 100 ml monthly average, ammonia daily maximums at 2.0 mg/L (May 1- October 31) and 3.0 mg/L (November 1 - April 30), and total recoverable copper and zinc daily maximums of 0.29 and 0.345 mg/L, respectively. The reissued permit sets final limits that are the same for BOD and TSS as set in the interim limits. A CD between the United States, the State of Missouri and the City of Lebanon mandates monthly reporting of all SSOs and describes the schedule of compliance (SOC) to eliminate the SSOs. The SOC includes completion of Goodwin Hollow lift station by June 4, 2008, completion of capacity relief sewers by February 1, 2010, submission of a detailed engineering report, and proceed with the design and construction of a third oxidation ditch. Final limits for total recoverable copper and zinc are reduced to 0.021 and 0.192 mg/L, respectively. Ammonia limits are increased to a daily maximum of 3.1 and 7.5 mg/L and a monthly average added 1.6 and 3.7 mg/L. These permitted limits will ensure the WQS for dissolved oxygen (DO) of 5 mg/L and the narrative standards for non-filterable residue (NFR) will be met.

Time

An estimate or projection of the time when WQS will be met.

September 29, 2009, three years from when the City of Lebanon was issued the new limits by the permit, WQS should be achieved in Dry Auglaize Creek.

Schedule

A reasonable schedule for implementing the necessary pollution controls.

A permit was issued on September 29, 2006 and revised January 4, 2008. The final effluent limits are effective three years from the date of permit issuance (September 29, 2009). The permit includes a SOC for the City of Lebanon to complete construction improvements to the collection system and provide adequate capacity in the system. The CD (04-3125-CV-S-RED) requirements have enforcement authority to ensure that the City of Lebanon will have corrected the bypassing and met WQS by July 1, 2007. An enforcement letter, Addendum No. 1 to "Final Report Post-Rehabilitation and Master Plan Update" was issued December 3, 2007.

Monitoring

A description of, and schedule for, monitoring milestones for tracking and reporting progress to EPA on the implementation of the pollution controls.

MDNR will schedule biological and water quality monitoring after completion of all construction to determine if the impairment has been eliminated. The permit includes quarterly instream monitoring up-

stream of the facility outfall and one quarter mile downstream of the facility outfall, for ammonia as nitrogen, temperature, pH and DO to verify if permit limits are being achieved.

Commitment to Revise

A commitment to revise, as necessary, the implementation strategy and pollution controls if progress towards meeting WQS is not being shown.

A reopener clause has been included in the permit to allow for incorporation of stricter effluent limits if monitoring shows that WQS are not being achieved.

********** ***Pollution control requirements in the submittal*** **********

National Pollution Discharge Elimination System (NPDES)
EPA and MDNR Civil Action consent decree (04-3125-CV-S-RED)

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0089010
Owner:	City of Lebanon
Address:	P.O. Box 111, Lebanon, MO 65536
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Lebanon Wastewater Treatment Facility
Address:	1727 Main, Lebanon, MO 65536
Legal Description:	NE ¼, Sec. 2, T34N, R16W, Laclede County
Latitude/Longitude:	+3742187/-09239091
Receiving Stream:	Dry Auglaize Creek (P)
First Classified Stream and ID:	Dry Auglaize Creek (P) (01145)
USGS Basin & Sub-watershed No.:	(10290109-060002)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - POTW - SIC #4952
Oxidation ditch/clarifiers/sand filter/ultraviolet disinfection/sludge is land applied
Design population equivalent is 20,000.
Design flow is 2.6 million gallons per day at a mixed liquor suspended solids concentration of less than 4,000 mg/l in the oxidation ditch until construction of a third oxidation ditch is completed.
Design sludge production is 420 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

September 29, 2006
Effective Date

January 4, 2008
Revised Date

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

September 28, 2011
Expiration Date

Edward Galbraith, Director of Staff, Clean Water Commission

MO 780-0041 (10-93)

Instream Monitoring S1
Instream Monitoring, 50 yards upstream of Outfall 001
NE ¼, Sec. 2, T34N, R16W, Laclede County
+3742092/-9239043
Dry Auglaize Creek (P) (01145)
(10290109-060002)

Instream Monitoring S2
Instream Monitoring, at County Road Crossing
NE ¼, Sec. 30, T35N, R15W, Laclede County
+3744367/-9237244
Dry Auglaize Creek (P) (01145)
(10290109-060002)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until three (3) years from the date of issuance of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. estimate
Biochemical Oxygen Demand$_5$**	mg/L		15	10	once/week	24 hr. comp.
Total Suspended Solids**	mg/L		20	15	once/week	24 hr. comp.
pH – Units	SU	***		***	once/week	grab
Fecal Coliform (Note 1)	#/100mL	1000		400	once/week	grab
Ammonia as N, Total (May 1 – October 31) (November 1 – April 30)	mg/L	 2.0 3.0			once/week	grab
Bis(2-ethylhexl phthalate)	mg/L	0.006			once/month	grab
Oil & Grease	mg/L	20		15	once/month	grab
Chromium (III), Total Recoverable	mg/L	*		*	once/month	grab
Chromium (VI), Total Recoverable	mg/L	*		*	once/month	grab
Copper, Total Recoverable	mg/L	0.029			once/month	grab
Zinc, Total Recoverable	mg/L	0.345			once/month	grab
Phenols	mg/L	0.10			once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE November 28, 2006. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Condition #14			twice/year	24 hr. comp.
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2007.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective three (3) years from the date of issuance of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. estimate
Biochemical Oxygen Demand$_5$**	mg/L		15	10	twice/week	24 hr. comp.
Total Suspended Solids**	mg/L		20	15	twice/week	24 hr. comp.
pH – Units	SU	***		***	twice/week	grab
Fecal Coliform (Note 1)	#/100mL	1000		400	twice/week	grab
Temperature	°C	*		*	twice/week	grab
Ammonia as N, Total	mg/L				twice/week	grab
(May 1 – October 31)		3.1		1.6		
(November 1 – April 30)		7.5		3.7		
Bis(2-ethylhexl phthalate)	mg/L	0.008		0.006	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
Chromium (III), Total Recoverable	mg/L	*		*	once/month	grab
Chromium (VI), Total Recoverable	mg/L	*		*	once/month	grab
Copper, Total Recoverable	mg/L	0.021		0.01	once/month	grab
Zinc, Total Recoverable	mg/L	0.192		0.089	once/month	grab
Phenols	mg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE November 28, 2009 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

Whole Effluent Toxicity (WET) Test	% Survival	See Special Condition #14	twice/year 24 hr. comp.

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2010 .

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Instream Monitoring (Site S1)						
Ammonia as N, Total	mg/L	*		*	once/quarter ****	grab
Temperature	°C	*		*	once/quarter ****	grab
Dissolved Oxygen	mg/L	*		*	once/quarter ****	grab
pH – Units	SU	*		*	once/quarter ****	grab
Instream Monitoring(Site S2)						
Ammonia as N, Total	mg/L	*		*	once/quarter ****	grab
Temperature	°C	*		*	once/quarter ****	grab
Dissolved Oxygen	mg/L	*		*	once/quarter ****	grab
pH – Units	SU	*		*	once/quarter ****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE January 28, 2007. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

* Monitoring requirement only.

** This facility is required to meet a removal efficiency of 85% or more for BOD_5 and TSS. Influent BOD_5 and TSS data shall be reported to ensure removal efficiency requirements are met.

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

**** Sample in the months of February, May, August, and November.

Note 1 - Final limitations and monitoring requirements for Fecal Coliform are applicable year-round.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Report as no-discharge when a discharge does not occur during the report period.

4. Changes in Discharges of Toxic Substances

   The permittee shall notify the Director as soon as it knows or has reason to believe:
   (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
      (4) The level established in Part A of the permit by the Director.
   (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Water Quality Standards
   (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
   (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
      (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
      (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
      (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
      (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
      (5) There shall be no significant human health hazard from incidental contact with the water;
      (6) There shall be no acute toxicity to livestock or wildlife watering;
      (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
      (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (cont.)

6. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
   (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
   (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

7. The department has approved the construction permit program to regulate and approve construction of sanitary sewers in the area tributary to this wastewater treatment plant or within the city limits. This approval may be revoked in whole or in part by the department if the sewage collection, transportation, or treatment facilities reach their design limitations, if the receiving facility falls into chronic noncompliance with the permit, or if the city fails to follow the terms and conditions of the approved program.

   When any of the above mentioned conditions are not met, the permittee will be notified and the construction permit authorization shall be terminated. The termination may be for an area experiencing problems, or for the entire construction permit approval.

8. As required in 40 CFR 122.21 (j)(4) the permittee shall, as part of its renewal application for this permit, submit to the department a written technical evaluation of the need to revise local limits under 40 CFR 403.5 (c)(1).

9. Bypass to the chlorine contact facility is permitted only for flows exceeding the design treatment capacity of the ultraviolet disinfection system. The ultraviolet disinfection system will always be used to treat all flows below the capacity of the system.

10. The permittee shall submit a report semi-annually, due on July 28 and January 28, which addresses measures taken to locate and eliminate sources of infiltration and inflow in the city's collection system.

11. The permittee shall maintain records of all wet weather bypassing from the collection system and the sewage treatment plant. These records shall document the duration and dates of the bypassing, the magnitude of the precipitation event causing the bypassing and the route of flow of the bypass (i.e. bypassed to final clarifier or receiving stream). Incidents of bypassing with the above information shall be included in narrative form with the discharge monitoring reports.

12. Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 40 CFR Part 403. The approved pretreatment program is hereby incorporated by reference.

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13. Permittee shall submit to the Department on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
   (a) An updated list of the Permittee's Industrial Users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation of each deletion. This list shall identify which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User. The list shall indicate which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards. The Permittee shall also list the Industrial Users that are subject only to local Requirements;
   (b) A summary of the status of Industrial User compliance over the reporting period;
   (c) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period.

C. SPECIAL CONDITIONS (cont.)

14. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
001	100	twice/year	24 hr. comp	January/July

(a) Test Schedule and Follow-Up Requirements

(1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102.

(2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:

(a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.

(b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(7) All failing test results shall be reported to WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.

(8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

(9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

(2) To pass a multiple-dilution test:

(a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,

(b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

C. SPECIAL CONDITIONS (cont.)

(c) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.

(4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(5) Single-dilution tests will be run with:

(a) Effluent at the AEC concentration;

(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and

(c) reconstituted water.

(6) Multiple-dilution tests will be run with:

(a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;

(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and

(c) reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

15. Within 30 days of when the wastewater treatment plant reaches an average daily flow of 2.45 mgd for a period of six(6) months, the city shall submit for review and approval detailed plans and specifications to the department for a third oxidation ditch, and any apparatuses that would meet water quality based effluent limits for the expanded design flow.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR,the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF MODIFICATION
OF
MO-0089010
LEBANON WASTEWATER TREATMENT FACILITY

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major ☒, Minor ☐, Industrial Facility ☐; Variance ☐;
Master General Permit ☐; General Permit Covered Facility ☐; and/or permit with widespread public interest ☐.

Part I – Facility Information

Facility Address: 1727 Main, Lebanon, MO 65536
Facility Type: POTW
Facility SIC Code(s): 4952

Facility Description: Oxidation ditch/clarifiers/sand filter/ultraviolet disinfection/sludge is land applied
Design population equivalent is 20,000.
Design flow is 2.6 million gallons per day at a mixed liquor suspended solids concentration of less than 4,000 mg/l in the oxidation ditch until construction of a third oxidation ditch is completed.
Design sludge production is 420 dry tons/year.

Last Inspection:03/27/07 In Compliance ☒; Non-Compliance ☐

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	4.03	Advanced	Municipal	0.0

Outfall #001
Legal Description: (NE ¼, Sec. 2, T34N, R16W, Laclede County)
Latitude/Longitude: +3742187/-09239091
Receiving Stream: Dry Auglaize Creek (P)
First Classified Stream and ID: Dry Auglaize Creek (P) (01145)
USGS Basin & Sub-watershed No.: (10290109-060002)

Part II – Operator Certification Requirements

As per [10 CSR 20-9.010(2)(A)],requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Applicable ☒;

- Population Equivalent greater than two hundred (200): ☒
- Fifty (50) or more service connections: ☒
- Private sewer company regulated by the Public Service Commission: ☐
- Department required: ☐
- Owned and/or operated by:
  - Municipality: ☐
  - Public Sewer District: ☐
  - County: ☐
  - Public Water Supply: ☐

This facility is required to have a Certified Level A Operator.

Operator's Name: David Wilcockson
Certification Level: A

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Losing Streams [10 CSR 20-7.015(4)]: Yes ☒; No ☐

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Dry Auglaize Creek	P	1145	LWW, AQL, WBC***	10290109	Ozark/Osage Drainage

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND).
** - Ecological Drainage Unit
*** - UAA has not been conducted.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Dry Auglaize Creek (P)	0.1	0.1	1.0

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(4)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(4)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0.025	0.025	0.25	0.0025	0.0025	0.025

RECEIVING STREAM MONITORING REQUIREMENTS:

Site 01. (Upstream)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Flow MGD	Once/quarter	Grab	Dry Auglaize Creek upstream of facility outfall
Dissolved Oxygen mg/L	Once/quarter	Grab	
pH Units	Once/quarter	Grab	
Temperature (F)	Once/quarter	Grab	
Ammonia as N mg/L	Once/quarter	Grab	

Site 02. (Downstream)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Dissolved oxygen	Once/quarter	Grab	Dry Auglaize Creek one-quarter (1/4) mile downstream of facility outfall
Ammonia as N	Once/quarter	Grab	
Temperature	Once/quarter	Grab	
pH	Once/quarter	grab	

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ☒;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - All limits in this Factsheet are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - Renewal no degradation proposed and no further review necessary.

APPLICABLE PERMIT PARAMETERS:
Effluent parameters contained in Factsheets and Missouri State Operating Permits are obtained from Technology Based Effluent Limit (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits, and from Operating Permit Applications.

BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:
Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Applicable (renewal and modifications to existing operating permits) ☒;
This facility has been approved to land apply as per Permit Standard Conditions III and a department approved bio-solids management plan.

COMPLIANCE AND ENFORCEMENT:
Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Applicable ☒;
The permittee/facility is currently under enforcement action by USEPA, US Justice department, and the State of Missouri due to chronic bypasses at the treatment plant during light rainfall events..

PRETREATMENT PROGRAM:
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Applicable ☒;
Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of [40 CFR Part 403]. The approved pretreatment program is hereby incorporated by reference. Permittee shall submit to the department on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year.

REASONABLE POTENTIAL ANALYSIS (RPA):
Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

Not Applicable ☒;
A RPA was not conducted for this facility.

REMOVAL EFFICIENCY:
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs). Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm

Applicable ☒;
Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSOs), AND INFLOW & INFILTRATION (I&I):
Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.

Applicable ☒;
The permittee is required to develop or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ☒;
The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations where established in accordance with [10 CSR 20-7.031(10)].

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):
A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Not Applicable ☒;
At this time, the permittee is not required to develop and implement a SWPPP.

VARIANCE:
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ☒;
This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ☒;
Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

WLA MODELING:

Not Applicable ☒;
A WLA study was either not submitted or determined not applicable by department staff.

WHOLE EFFLUENT TOXICITY (WET) TEST:
As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR Part 122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Applicable ☒;
As required or recommended; requiring scheduled WET testing is reasonably appropriate to include in site-specific Missouri State Operating Permits for discharge to waters of the state issued under the National Pollutant Discharge Elimination System. WET testing requirements are established by the WET Test Policy, Section 308 of the Federal Water Pollution Control Act, and [40 CFR § 136]. WET test will be required by all facilities meeting the following criteria:

- All major (domestic & industrial) discharge facilities ☒
- Facilities that are exceeding or routinely exceed their design flow ☐
- Industrial dischargers or other dischargers that may alter their production processes throughout the year ☐
- Facilities that may handle large quantities of toxic substances, or substances that are toxic in large amounts ☐
- Facilities that have been granted seasonal relief of numeric limitations ☐
- Facilities that have WQBEL for toxic substances ☒
- Domestic dischargers ≤ 22,500 gpd ☐
- Municipal domestic ≥ 22,500 gpd ☐

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation .

Applicable ☒;
Dry Auglaize Creek is listed on the 2002 Missouri 303(d) List for unknown pollutants.

☒ – This facility is considered to be a source of or has the potential to contribute to the above listed pollutant(s).

Part V – Effluent Limits Determination

Outfall #001 – Main Facility Outfall
EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	N	
BOD_5	MG/L	1		15	10	N	
TSS	MG/L	1		20	15	N	
PH (S.U.)	SU	1	6.0 – 9.0		6.0 – 9.0	N	
TEMPERATURE (°C)	°C	1/8	*		*	N	
AMMONIA AS N (MAY 1 – OCT 31)	MG/L	2/3/5	3.1		1.6	N	
AMMONIA AS N (NOV 1 – APR 30)	MG/L	2/3/5	7.5		3.7	N	
FECAL COLIFORM	***	1/2	1000		400	N	
OIL & GREASE (MG/L)	MG/L	1	15		10	N	
CHROMIUM (III), TOTAL RECOVERABLE	µg/L	2	*		*	N	
CHROMIUM (VI), TOTAL RECOVERABLE	µg/L	2	*		*	N	
COPPER, TOTAL RECOVERABLE	µg/L	2/3	0.021		0.01	N	
ZINC, TOTAL RECOVERABLE	µg/L	2/3	0.192		0.089	N	
PHENOLS	µg/L	2	*		*	N	
WHOLE EFFLUENT TOXICITY (WET) TEST	Please see WET Test in the Derivation and Discussion Section below.						
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only
*** - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

Basis for Limitations Codes:
1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality-Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Antidegradation Policy
7. Water Quality Model
8. Best Professional Judgement
9. TMDL or Permit in lieu of TMDL
10. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Biochemical Oxygen Demand (BOD_5).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **Total Suspended Solids (TSS).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **pH.** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.

- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. On April 5, 2006, the department conducted a WQR for the receiving stream and this facility. Ammonia effluent limitations calculated in that WQR have been deterined applicable. Copies of the WQRS are available upon request.

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.1	1.6
Winter	7.5	3.7

- **Fecal Coliform**. Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**[10 CSR 20-7.015(4)(B)4.]. Future renewals of the facility operating permit will contain effluent limitations for E. coli, which will replace fecal coliform as the applicable bacteria criteria in Missouri's water quality standards.

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion" (EPA 823-B-96-007). General warm-water fishery criteria apply and water hardness = 180 mg/L.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Copper	0.960	0.960
Zinc	0.978	0.986

- **Copper, Total Recoverable**. On April 5, 2006, the department conducted a WQR for the receiving stream and this facility. Copper, Total Residual effluent limitations calculated in that WQR have been deterined applicable. Copies of the WQRS are available upon request.

  MDL = 20.5 µg/L
  AML = 10.2 µg/L

- **Zinc, Total Recoverable**. On April 5, 2006, the department conducted a WQR for the receiving stream and this facility. Zinc, Total Residual effluent limitations calculated in that WQR have been deterined applicable. Copies of the WQRS are available upon request.

  MDL = 192 µg/L
  AML = 89.1 µg/L

- **Phenol**. Results from a RPA indicate no reasonable potential exist for this facility; therefore, the effluent limitation has been reduced to a monitoring only requirement.

- **WET Test**. Whole Effluent Toxicity test shall be conducted as follows:

Summary of Wet Testing for This Permit				
Outfall	A.E.C. %	Frequency	Sample Type	Month
001	100	twice/year	24 hr. composite	January/July

- **Minimum Sampling and Reporting Frequency Requirements**. Sampling and reporting frequency requirements have been retained from previous state operating permit.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:
As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

☒ - The Public Notice period for this operating permit was from May 19, 2006, to June 22, 2006. However, modifications contained in this operating permit are due to Addendum No. 1 to Final Report Post-Rehabilitation and Master Plan Update dated November 28, 2007. These modifications do not warrant a new Public Notice.

DATE OF FACTSHEET: DECEMBER 20, 2007

COMPLETED BY:
TONY DOHMEN AND
MICHAEL ABBOTT, ENVIRONMENTAL SPECIALIST
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